transfer to region **95** when the interrogating current pulse is imposed on it. Instead the interrogating bubble will transfer to loop **93**. In this manner the repulsion of like poles provides the decision function for the wavering loop interrogator **54**. Conversely, since no bubble resides in the "store one" region **90** and the most recent current pulse flowing through conductor **52** induced a permanent attraction field in the permalloy bar **76**, the wavering loop **53** will transfer its bubble from loop **96** to loop **94** whose attraction is stronger than that of loop **92** which has no permalloy flux enhancement. Thus, the influence of the bubble stored in the center bistable loop determines the position of the adjacent interrogating bubbles in their respective wavering loops.

In operation, the results of the interrogation are detected at the regions **92** and **93**. For example, when current flows through interrogating lines **51** and **50** in the direction that tries to force the interrogating bubbles into one of the two side loops of their respective wavering loops to determine whether a "one" is stored in the adjacent bistable memory loop, the resident bubbles in the wavering loops portions **53** and **54** will be attracted to regions **94** or **95** respectively depending on the location of the memory bubble. Thus when regions **92** and **93** are interrogated by their respective magnetoresistive sensors their output will be an indication of the location of a bubble. Conversely, the absence of the memory bubble allows the interrogating bubbles to be attracted by the permalloy bar and move to region **94** or **95** resulting in the absence of a signal at the sensing sites **92** and **93**. The result of these magnetic interactions is shown in FIG. 8*a* where interrogating line **50** is energized and has detected that loop **90** (store "one") is empty.

In FIG. 8*b*, a "zero" is again stored. Interrogating line **51** is energized resulting in the transfer of the bubble in the wavering loop region **54** to region **93**. When the readout region **93** is observed, a bubble will be detected resulting in an output which indicates a positive response to the inquiry, i.e., that a "zero" is in fact stored in memory.

A similar process occurs in FIG. 8*c* where a "one" is stored. The inquiry current pulse passes through interrogator line **51** and asks whether a "zero" is stored. The resident bubble in the wavering loop moves to region **95** so that when readout region **93** is observed, no bubble is detected, resulting in an output of "zero" which indicated a negative response to the inquiry, i.e. the "zero" site is empty.

Finally, in FIG. 8*d*, a "one" is again stored. The inquiry current flow through interrogator line **50** asks whether a "one" is in fact stored. The resident bubble in the wavering loop moves to region **92** so that when region **92** is observed, a bubble is detected, resulting in an output of "one" which indicates a positive response to the inquiry, i.e. a "one" is present. In this manner line **51** will provide a positive correlation for "zero", i.e. when asked "is there a zero" it will return the indicating answer signal. Similarly, line **50** will provide a positive correlation for "one". During the period that one interrogating line queries the memory the other line can be idle with the wavering bubble in the stable center position. This allows for time multiplexing of the magnetoresistor signals.

All interrogating bubbles in their respective wavering loops can be returned to the center-idle position, such as at a time between interrogations, by a current pulse of suitable polarity through the wavering loop alone. No supplemental magnetic influence is required for this return transfer since the magnetomotive forces on the bubble in either side loop are unequivocally directed toward the center loop.

What is claimed is:

1. A conductor configuration for positioning a captured magnetic bubble in a magnetic domain device comprising a uniaxial anisotropic magnetocrystalline platelet in a magnetic bias field, said conductor configuration comprising:

a. a wavering loop pattern defining three contiguous domain retaining regions in magnetic field coupled relationship to the crystalline platelet, said pattern oriented so that current flowing through the conductor pattern induces a magnetic field having a first polarity in a center region and a magnetic field having an opposite polarity in the remaining two regions, and

b. decision control means for selectively directing a bubble into one of said remaining regions when current flowing in the wavering loop pattern induces a magnetic field of said first polarity having a tendency to repel the magnetic bubble from the center region.

2. An improved random access memory device of the type utilizing cylindrical magnetic domains movable in a plane parallel to a major surface of at least one crystal platelet and having a magnetic field generating domain positioning array of electrical conductors positioned in magnetic field coupled relationship to the crystal platelet to define therein an array of binary bit memory locations each of which can store a representation of a binary zero or a binary one, as represented by a selected positioning of one of the movable magnetic domains at a particular portion of the bit location, the improvement comprising:

a. a first set of electrical conductors comprising a plurality of first conductors all extending in spaced substantially parallel relationship to each other in a first direction in a first plane parallel to a major surface of the crystal platelet, each of said first conductors comprising a plurality of wavering loop patterns electrically coupled in the first direction in series to form a plurality of rows and none-lectrically aligned in a second direction to form a plurality of columns, one wavering loop pattern defining each bit location wherein each of the wavering loop patterns define three contiguous domain retaining regions, the first of said regions representing a stored binary one state, the second of said regions, located in the middle position, representing an idle-reset state, and the third of said regions representing a stored binary zero state, said pattern at each bit location being coupled to the pattern of at least one adjacent bit location by at least one straight conductor run which provides with said patterns a single continuous path for the flow of current and which does not cross any other conductor in its set;

b. decision control means at each bit for selectively directing the bubble into either the first or the third region when current flows through the wavering loop pattern in a direction which repels the bubble from the middle position representing the idle-reset state; and

c. means to simultaneously control said decision control means and to supply a drive current to any preselected conductor to provide an addressable binary memory.